(2) Class II—engines greater than or equal to 225 cc in displacement,

(3) Class III—handheld equipment engines less than 20 cc in displacement,

(4) Class IV—handheld equipment engines equal or greater than 20 cc but less than 50 cc in displacement, and

(5) Class V—handheld equipment engines equal to or greater than 50 cc in displacement.

(c) The manufacturer's product line will be divided into groupings of engine families as specified by paragraph (d) of this section.

(d) To be classed in the same engine family, engines must be identical in all of the following applicable respects:

(1) The combustion cycle;

(2) The cooling mechanism;

(3) The cylinder configuration (inline, vee, opposed, bore spacings, and so forth);

(4) The number of cylinders;

(5) The engine class;

(6) The number of catalytic converters, location, volume, and composition; and

(7) The thermal reactor characteristics.

(e) At the manufacturer's option, engines identical in all the respects listed in paragraph (d) of this section may be further divided into different engine families if the Administrator determines that they may be expected to have different emission characteristics. This determination is based upon the consideration of features such as:

(1) The bore and stroke;

(2) The combustion chamber configuration;

(3) The intake and exhaust timing method of actuation (poppet valve, reed valve, rotary valve, and so forth);

(4) The intake and exhaust valve or port sizes, as applicable;

(5) The fuel system;

(6) The exhaust system; and

(7) The method of air aspiration.

(f) Where engines are of a type which cannot be divided into engine families based upon the criteria listed in paragraph (d) of this section, the Administrator will establish families for those engines based upon the features most related to their emission characteristics.

§ 90.117 Certification procedure—test engine selection.

(a) The manufacturer must select, from each engine family, a test engine that the manufacturer determines to be most likely to exceed the emission standard.

(b) The test engine must be constructed to be representative of production engines.

§ 90.118 Certification procedure—service accumulation.

(a)(1) The test engine must be operated with all emission control systems operating properly for a period sufficient to stabilize emissions.

(2) The period sufficient to stabilize emissions may not exceed 12 hours.

(b) No maintenance, other than recommended lubrication and filter changes, may be performed during service accumulation without the Administrator's approval.

(c) Service accumulation is to be performed in a manner using good engineering judgment to ensure that emissions are representative of production engines.

(d) The manufacturer must maintain, and provide to the Administrator if requested, records stating the rationale for selecting a service accumulation period less than 12 hours and records describing the method used to accumulate hours on the test engine(s).

[60 FR 34598, July 3, 1995, as amended at 61 FR 20742, May 8, 1996]

§ 90.118 Certification procedure—service accumulation.

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(d) The manufacturer must maintain, and provide to the Administrator, records stating the rationale for selecting a service accumulation period less than 12 hours and records describing the method used to accumulate hours on the test engine(s).

§ 90.119 Certification procedure—testing.

(a) *Manufacturer testing.* The manufacturer must test the test engine using the specified test procedures and appropriate test cycle. All test results must be reported to the Administrator.

(1) The test procedure to be used is detailed in Subpart E of this part.